[characterised in that] said winding includes insulation [consisting of] comprising at least two semiconducting layers, each layer providing a substantially equipotential surface, and solid insulation between said semiconducting layers.

Claim 2. (Amended) An electricity supply system for traction, comprising a 3-phase high voltage distribution line, a rotating converter connected to the three phases of the distribution line and having a winding, and a traction supply line fed by the rotating converter, wherein [characterised in that] said winding includes insulation [consisting of] comprising at least two semiconducting layers, each layer providing a substantially equipotential surface, and solid insulation between said semiconducting layers.

Claim 3. (Amended) [A] The system as claimed in claim 2, wherein high voltage switchgear is connected between the distribution line and the rotating converter.

Claim 4. (Amended) [A] The system as claimed in claim 3, wherein a transformer is connected between the switchgear and the rotating converter.

Claim 5. (Amended) [A] The system as claimed in claim 2 [claims 2, 3 or 4], wherein the frequency of the supply at the traction supply line is 25 Hz or 16⅔ Hz.

Claim 6. (Amended) An electricity supply system for traction, comprising a rotating converter adapted to be supplied by a 3-phase high voltage distribution line and having a winding, the rotating converter supplying a single phase traction supply line and, via a first transformer, a high voltage intermediate line which is connected to the traction supply line via one or more further transformers, [characterised in that] wherein said winding includes insulation consisting of at least two semiconducting layers, each

layer providing a substantially equipotential surface, and solid insulation between said semiconducting layers.

Claim 7. (Amended) [A] The system as claimed in claim 6, wherein [characterised in that] the winding of said first transformer includes insulation [consisting of] comprising at least two semiconducting layers, each layer providing a substantially equipotential surface, and solid insulation between said semiconducting layers.

Claim 8. (Amended) [A] The system as claimed in claim 6, wherein [or 7, characterised in that] the winding of the or each further transformer includes insulation [consisting of] forming at least two semiconducting layers, each layer providing a substantially equipotential surface, and solid insulation between said semiconducting layers.

Claim 9. (Amended) An electricity supply for traction, comprising a rotating converter having a winding and adapted to be supplied by a 3-phase high voltage distribution line, the rotating converter supplying both a single phase lower voltage traction supply line and a high voltage intermediate line [which is] connected to said traction supply line via one or more transformers, wherein [characterised in that] said winding includes insulation [consisting of] comprising at least two semiconducting layers, each layer providing a substantially equipotential surface, and solid insulation between said semiconducting layers.

Claim 10. (Amended) [An] The electricity supply system according to claim 9, wherein [characterised in that] the or each transformer has a winding including insulation [consisting of] comprising at least two semiconducting layers, each layer

providing a substantially equipotential surface, and solid insulation between said semiconducting layers.

Claim 11. (Amended) An electricity supply system comprising a rotating converter having a winding and adapted to be supplied by a 3-phase high voltage distribution line, said rotating converter supplying a transformer which in turn supplies a traction supply line, wherein [characterised in that] said winding includes insulation [consisting of] comprising at least two semiconducting layers, each layer providing a substantially equipotential surface, and solid insulation between said semiconducting layers.

Claim 12. (Amended) [A] The system as claimed in claim 1 [any one of claims 2 to 11], wherein said rotating converter is asynchronous.

Claim 13. (Amended) [A] The system as claimed in claim 2 [any one of claims 2 to 11], wherein said rotating converter is asynchronous.

Claim 14. (Amended) [A] The system as claimed in claim 2 [any one of claims 2 to 13], wherein said rotating converter comprises a single machine having both motor and generator functions.

Claim 15. (Amended) [A] The system as claimed in claim 14, wherein said rotating converter comprises a phase converter.

Claim 16. (Amended) [A] The system as claimed in claim 11, wherein [characterised in that] the transformer has a winding including insulation comprising [consisti\g of] at least two semiconducting layers, each layer providing a substantially equipotential surface, and solid insulation between said semiconducting layers.

Claim 17. (Amended) An electricity supply system for traction, comprising at least one autotransformer having a winding and being connected between a traction supply line and a neutral line, wherein [characterised in that] said winding includes insulation consisting of at least two semiconducting layers, each layer providing a substantially equipotential surface, and solid insulation between said semiconducting layers.

Claim 18. (Amended) An electricity supply system for traction, comprising at least one current booster transformer having a winding and being connected between a traction supply line and a return conductor, wherein [characterised in that] said winding includes insulation consisting of at least two semiconducting layers, each layer providing a substantially equipotential surface, and solid insulation between said semiconducting layers.

Claim 19. (Amended) An electricity supply system for traction, comprising a static frequency converter unit connected between two transformers each having a winding, wherein [characterised in that] said windings include insulation consisting of at least two semiconducting layers, each layer providing a substantially equipotential surface, and solid insulation between said semiconducting layers.

Claim 20. (Amended) [A] The system as claimed in claim 1, wherein [any preceding claim, characterised in that] at least one of said layers has substantially the same coefficient of thermal expansion as the solid insulation.

Claim 21. (Amended) [A] The system as claimed in claim 1, including [any preceding claim, characterised in that the] flux paths in at least one of the core of a

magnetic circuit in the or each transformer or rotating converter [consists of] comprising at least one of laminated sheet plate, [and/or] rough forged iron, [and/or] cast iron and [or] powder-based iron.

Claim 22. (Amended) [A] The system as claimed in claim 1, wherein [any preceding claim, characterised in that] the innermost semiconducting layer [(32)] which surrounds at least one conductor [(31)] is at substantially the same potential as the conductor[(s) (31)].

Claim 23. (Amended) [A] The system as claimed in claim 1, wherein [any preceding claim, characterised in that] the outer semiconducting layer [(34)] is connected to a selected potential.

Claim 24. (Amended) [A] The system as claimed in claim 22, wherein [characterised in that] the selected potential is earth potential.

Claim 25. (Amended) [A] The system as claimed in claim 1, wherein [any preceding claim, characterised in that] a current-carrying conductor of the winding comprises a plurality of strands, only a few of the strands not being insulated from each other.

Claim 26. (Amended) [A] The system as claimed in claim 1, wherein [any preceding claim, characterised in that] said winding[(s)] and also permanently insulated connection conductors for high tension current between the system units are produced using a cable [(6)] with solid insulation for high voltage and comprising at least two semiconducting layers [(32, 34)], and also strands [(36)] which may be insulated or uninsulated.